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PTO/SB/21 (08-00)

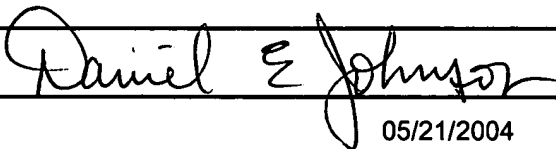
Approved for use through 10/31/2002. OMB 0651-0031


U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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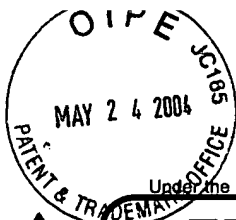
TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>	Application Number	10/734,425	
	Filing Date	12/12/2003	
	First Named Inventor	Stuart Stephen Papworth Parkin	
	Group Art Unit	1762	
	Examiner Name	Unknown	
Total Number of Pages in This Submission	6	Attorney Docket Number	ARC920030070US1

ENCLOSURES (check all that apply)		
<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Assignment Papers <i>(for an Application)</i>	<input type="checkbox"/> After Allowance Communication to Group
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment / Reply	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Group <i>(Appeal Notice, Brief, Reply Brief)</i>
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address	<input type="checkbox"/> Other Enclosure(s) <i>(please identify below):</i>
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	
<input checked="" type="checkbox"/> Supplemental Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Response to Missing Parts/ Incomplete Application	Remarks	
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Daniel E. Johnson
Signature	
Date	05/21/2004

CERTIFICATE OF MAILING			
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313 on: 05/21/2004			
Typed or printed name	Cheryl G. Ruby		
Signature		Date	5/21/04

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PTO/SB/17 (10-01)
Approved for use through 10/31/2002. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

FEE TRANSMITTAL for FY 2002

Patent fees are subject to annual revision.

TOTAL AMOUNT OF PAYMENT (\$) 0.00

Complete if Known

Application Number	10/734,425
Filing Date	12/12/2003
First Named Inventor	Stuart Stephen Papworth Parkin
Examiner Name	Unknown
Group Art Unit	1762
Attorney Docket No.	ARC920030070US1

METHOD OF PAYMENT

1. ☒ The Commissioner is hereby authorized to charge indicated fees and credit any overpayments to:

Deposit
Account
Number

09-0441

Deposit
Account
Name

IBM CORPORATION

- ☒ Charge Any Additional Fee Required
Under 37 CFR 1.16 and 1.17

- ☐ Applicant claims small entity status.
See 37 CFR 1.27

2. ☐ Payment Enclosed:

☐ Check ☐ Credit card ☐ Money Order ☐ Other

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description
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101	740	201	370	Utility filing fee
106	330	206	165	Design filing fee
107	510	207	255	Plant filing fee
108	740	208	370	Reissue filing fee
114	160	214	80	Provisional filing fee

Fee Paid

SUBTOTAL (1) (\$) 0.00

2. EXTRA CLAIM FEES

Total Claims	Extra Claims	Fee from below	Fee Paid
Independent Claims	-20** =	18.00	0.00
Multiple Dependent	-3** =	84.00	0.00

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)
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Fee Description

103	18	203	9	Claims in excess of 20
102	84	202	42	Independent claims in excess of 3
104	280	204	140	Multiple dependent claim, if not paid
109	84	209	42	** Reissue independent claims over original patent
110	18	210	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$) 0.00

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee (\$)	Small Entity Fee Code	Small Entity Fee (\$)	Fee Description	Fee Paid
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee or cover sheet	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for <i>ex parte</i> reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	
116	400	216	200	Extension for reply within second month	
117	920	217	460	Extension for reply within third month	
118	1,440	218	720	Extension for reply within fourth month	
128	1,960	228	980	Extension for reply within fifth month	
119	320	219	160	Notice of Appeal	
120	320	220	160	Filing a brief in support of an appeal	
121	280	221	140	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1,280	241	640	Petition to revive - unintentional	
142	1,280	242	640	Utility issue fee (or reissue)	
143	460	243	230	Design issue fee	
144	620	244	310	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Processing fee under 37 CFR 1.17(q)	
126	180	126	180	Submission of Information Disclosure Stmt	
581	40	581	40	Recording each patent assignment per property (times number of properties)	
146	740	246	370	Filing a submission after final rejection (37 CFR § 1.129(a))	
149	740	249	370	For each additional invention to be examined (37 CFR § 1.129(b))	
179	740	279	370	Request for Continued Examination (RCE)	
169	900	169	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$) 0.00

SUBMITTED BY

Name (Print/Type)

Daniel E. Johnson

Registration No.
(Attorney/Agent)

37,033

Complete (if applicable)

Telephone

408-927-3367

Signature

Daniel E. Johnson

Date

05/21/2004

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of _____ : May 21, 2004
S Parkin : Group Art Unit: 1762
Serial No.: 10/734,425 : Examiner: Unknown
Filed: December 12, 2003 : San Jose, California
Title: Mg-Zn oxide tunnel barriers and method of formation

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
U.S. Patent and Trademark Office
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Under the provisions of 37 CFR § 1.97 through §1.99 and pursuant to Applicant's duty of disclosure under 37 CFR §1.56, Applicant respectfully brings the following document(s) listed on the attached form PTO-1449 to the attention of the Examiner in charge of the above-identified application. Copies of the listed document(s) are provided herewith.

This Information Disclosure Statement is being submitted before receiving a first Office Action on the merits for the above-identified patent application. (No fee is due.)

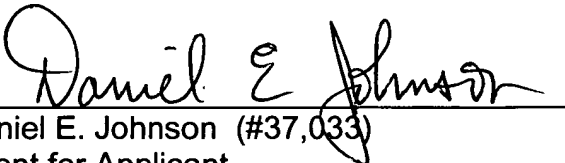
This submission does not constitute an admission that the cited reference(s) are relevant or material to the claims. The reference(s) are only cited as constituting related art of which Applicant is aware.

It is respectfully requested that the listed references be considered by the Examiner and formally made of record in this application.

The Director is hereby authorized to charge payment of any deficiency in the above fee(s) or to charge any additional fees required under 37 CFR § 1.16 or 1.17 or credit any overpayment to Deposit Account No. 09-0441. A duplicate copy of this authorization is attached for the Finance Branch.

Respectfully submitted,

S. Parkin

By 
Daniel E. Johnson (#37,033)
Agent for Applicant
Phone (408) 927-3367

DEJ:cgr

Attachments

PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Substitution for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known	
				Application Number	10734,425
				Filing Date	December 12, 2003
				First Named Inventor	Stuart Stephen Papworth Parkin
				Art Unit	1762
				Examiner Name	Unassigned
				Attorney Docket Number	ARC920030070US1
Sheet	1	of	2		

[illegible][illegible]

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/734,425
		Filing Date	December 12, 2003
		First Named Inventor	S. Parkin
		Group Art Unit	1762
		Examiner Name	Unassigned
Sheet	2	of	2
		Attorney Docket Number	ARC920030070US1

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials[*]	Cite No.¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T²
		W. Yang et al., "Compositionally-tuned epitaxial cubic MgxZn1-xO on Si(100) for deep ultraviolet photodetectors", Applied Physics Letters, Vol. 82, No. 20, May 19, 2003, pp. 3424-3426.	
		T. Makino et al., "Band gap engineering based on MgxZn1-xO and CdyZn1-yO ternary alloy films," Applied Physics Letters, Vol. 78, No. 9, February 26, 2001, pp. 1237-1239.	
		T. Dietl et al., "Zener Model Description of Ferromagnetism in Zinc-Blende Magnetic Semiconductors", Science, Vol. 287, February 11, 2000, pp. 1019-1022.	
		S. Krishnamoorthy et al., "Resonant tunneling action in ZnO/Zno.8Mgo.2O double barrier devices", Semiconductor Device Research Symposium, 2001 International, Wash D.C., USA, December 5-7, 2001, pp. 450-453.	

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

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